

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

Listing of Claims:

- 1-6. (canceled)
7. (previously presented) The phosphor blend of claim 68, wherein y is in a range from about 4.5 to and including 5.
8. (previously presented) The phosphor blend of claim 68, wherein y is in a range from about 4.6 to and including 5.
9. (currently amended) A phosphor blend comprising $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}:\text{Ce}^{3+}$ or $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}:\text{Ce}^{3+}$, wherein x is in a range from about 2.8 to and including 3 and y is a range from about 4 to and including 5, and at least another phosphor selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; (b) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$, MgWO_4 , BaTiP_2O_8 , and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Sb}^{3+}$; (c) $\text{LaPO}_4:\text{Ce}^{3+}$, Tb^{3+} , $\text{CeMgAl}_{11}\text{O}_{19}:\text{Tb}^{3+}$, $\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}$, Tb^{3+} , Mn^{2+} , and $\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}$, Tb^{3+} ; and (d) $(\text{Gd}, \text{La}, \text{Lu}, \text{Sc})_2\text{O}_3:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3:\text{Eu}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}:\text{Eu}^{3+}$, monoclinic $\text{Gd}_2\text{O}_3:\text{Eu}^{3+}$, $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9:\text{Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9:\text{Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2:\text{Sn}^{2+}$; and $\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}$, Mn^{2+} ; and (e) $3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{CeO}_2:\text{Mn}^{4+}$; wherein said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.
10. (currently amended) A phosphor blend comprising $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}:\text{Ce}^{3+}$ or $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}:\text{Ce}^{3+}$, wherein x is in a range from about 2.8 to and including 3 and y is a range from about 4 to and including 5, and at least another phosphor selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; (b) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$, MgWO_4 , BaTiP_2O_8 ,

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

(Ba,Sr,Ca)MgAl₁₀O₁₇:Eu²⁺, Mn²⁺, and (Ba,Sr,Ca)₅(PO₄)₃(Cl,F,OH):Sb³⁺; (c) ~~LaPO₄:Ce³⁺, Tb³⁺, CeMgAl₁₁O₁₉:Tb³⁺, GdMgB₅O₁₀:Ce³⁺, Tb³⁺, Mn²⁺, and GdMgB₅O₁₀:Ce³⁺, Tb³⁺; and~~ (d) (Y,Gd,La,Lu, Sc)₂O₃:Eu³⁺, (Y,Gd, La, In, Lu, Sc)BO₃:Eu³⁺, (Y,Gd,La)(Al,Ga)O₃:Eu³⁺, (Ba,Sr,Ca)(Y,Gd, La, Lu)₂O₄:Eu³⁺, (Y,Gd)Al₃B₄O₁₂:Eu³⁺, ~~monoclinic Gd₂O₃:Eu³⁺; (Gd,Y)₄(Al,Ga)₂O₉:Eu³⁺, (Ca,Sr)(Gd,Y)₃(Ge,Si)Al₃O₉:Eu³⁺, and (Sr,Mg)₃(PO₄)₂:Sn²⁺, and GdMgB₅O₁₀:Ce³⁺, Mn²⁺; and~~ (e) ~~3.5MgO-0.5MgF₂-GeO₂:Mn⁴⁺~~; wherein said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum, wherein said phosphor blend absorbs EM radiation substantially in a wavelength range from about 250 nm to about 350 nm.

11. (previously presented) The phosphor blend of claim 10, wherein said phosphor blend absorbs EM radiation substantially in a wavelength range from about 250 nm to about 300 nm.

12. (original) The phosphor blend of claim 11, wherein said white light has color coordinates substantially on a black body locus of a CIE chromaticity diagram.

13. (original) The phosphor blend of claim 11, wherein said color coordinates of said white light is represented by a point at a distance less than or equal to about 0.0054 from a black body locus of a CIE chromaticity diagram.

14. (original) The phosphor blend of claim 9, wherein said light emitted from said phosphor blend is white light.

15. (original) The phosphor blend of claim 9, wherein y is in a range from about 4.5 to and including 5.

16. (original) The phosphor blend of claim 9, wherein y is in a range from about 4.6 to and including 5.

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

17. (currently amended) A phosphor blend comprising a plurality of phosphors, each of said phosphors being selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{F}): \text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}: \text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5: \text{Eu}^{2+}$; (b) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}: \text{Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}: \text{Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3: \text{Eu}^{2+}$, BaTiP_2O_8 , and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Sb}^{3+}$; (c) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}: \text{Ce}^{3+}$ or $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}: \text{Ce}^{3+}$, wherein x is a range from about 2.8 to and including 3 and y is in a range from about 4 to and including 5, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Mn}^{2+}, \text{Sb}^{3+}$; and (d) $(\text{La}, \text{Lu}, \text{Sc})_2\text{O}_3: \text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3: \text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3: \text{Eu}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4: \text{Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}: \text{Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3: \text{Eu}^{3+}$~~ , $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9: \text{Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9: \text{Eu}^{3+}$, $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2: \text{Sn}^{2+}$, and $\text{GdMgB}_5\text{O}_{10}: \text{Ce}^{3+}, \text{Mn}^{2+}$; wherein y is in a range from about 4.5 to and including 5, at least two of said phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

18. (canceled)

19. (original) The phosphor blend of claim 17, wherein y is in a range from about 4.6 to and including 5.

20. (currently amended) A phosphor blend comprising phosphors, each of said phosphors being selected from one of the groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{F}): \text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}: \text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5: \text{Eu}^{2+}$; (b) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}: \text{Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}: \text{Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3: \text{Eu}^{2+}$, ~~MgWO_4~~ , BaTiP_2O_8 , and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Sb}^{3+}$; and (c) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}: \text{Ce}^{3+}$, $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}: \text{Ce}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Mn}^{2+}, \text{Sb}^{3+}$; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

21. (original) The phosphor blend of claim 20, wherein y is in a range from about 4.5 to and including 5.

22. (original) The phosphor blend of claim 20, wherein y is in a range from about 4.6 to and including 5.

23. (canceled)

24. (currently amended) A phosphor blend comprising phosphors each of said phosphors being selected from one of groups: (a) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (b) $\text{CeMgAl}_{11}\text{O}_{19}\text{:Tb}^{3+}$, $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Tb^{3+} , Mn^{2+} , and $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}\text{-Tb}^{3+}$; (c) $(\text{Tb,Y,Lu,La,Gd})_x(\text{Al,Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, $(\text{Tb,Y,Lu,La,Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$ and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$ and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Mn}^{2+}$, Sb^{3+} ; and (d) $(\text{Y,Lu,La,Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,La,In,Lu,Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,La})(\text{Al,Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba,Sr,Ca})(\text{Y,Gd,La,Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y,Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ , $(\text{Gd,Y})_4(\text{Al,Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca,Sr})(\text{Gd,Y})_3(\text{Ge,Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr,Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}\text{-Mn}^{2+}$; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

25. (previously presented) The phosphor blend of claim 24, wherein y is in a range from about 4.6 to and including 5.

26. (currently amended) A phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (a) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{F})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (b)

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

$(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}:\text{Ce}^{3+}$, $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}:\text{Ce}^{3+}$ and
 $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Mn}^{2+}$, Sb^{3+} ; and (c)
 $(\text{Gd}, \text{La}, \text{Lu}, \text{Sc})_2\text{O}_3:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3:\text{Eu}^{3+}$,
 $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}:\text{Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3:\text{Eu}^{3+}$~~ ,
 $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9:\text{Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9:\text{Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2:\text{Sn}^{2+}$,
 ~~$\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Mn}^{2+}$~~ ; wherein x is in a range from about 2.8 to and including 3, y is in
 a range from about 4 to and including 5, at least two phosphors are selected from different
 groups, and said phosphor blend is capable of absorbing EM radiation having
 wavelengths in a range from about 200 nm to about 400 nm and emitting light in having
 wavelengths in a visible spectrum.

27. (currently amended) A phosphor blend comprising phosphors, each
 of said phosphors being selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{F}):\text{Eu}^{2+}$,
 $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; (b)
 $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}:\text{Ce}^{3+}$, $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}:\text{Ce}^{3+}$ and
 $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Mn}^{2+}$, Sb^{3+} ; and (c)
 $(\text{Y}, \text{Gd}, \text{La}, \text{Lu}, \text{Sc})_2\text{O}_3:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3:\text{Eu}^{3+}$,
 $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4:\text{Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}:\text{Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3:\text{Eu}^{3+}$~~ ,
 $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9:\text{Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9:\text{Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2:\text{Sn}^{2+}$,
 ~~$\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Mn}^{2+}$~~ ; and (d) ~~$3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2:\text{Mn}^{4+}$~~ wherein x is in a range
 from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least
 two phosphors are selected from different groups, and said phosphor blend is capable of
 absorbing EM radiation having wavelengths in a range from about 200 nm to about 400
 nm and emitting light in having wavelengths in a visible spectrum.

28. (previously presented) The phosphor blend of claim 27, wherein y
 is in a range from about 4.6 to and including 5.

29. (previously presented) A phosphor blend comprising phosphors,
 each of said phosphors being selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{F}):\text{Eu}^{2+}$,
 $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; and (b)

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

$(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}:\text{Ce}^{3+}$ and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}, \text{Mn}^{2+}, \text{Sb}^{3+}$, wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

30. (currently amended) A phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; and (b) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}:\text{Ce}^{3+}$, $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}:\text{Ce}^{3+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$ and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Mn}^{2+}, \text{Sb}^{3+}$; and (c) $3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2:\text{Mn}^{4+}$; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

31. (previously presented) The phosphor blend of claim 30, wherein y is in a range from about 4.6 to and including 5.

32. (canceled)

33. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising at least two phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; (2) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$, BaTiP_2O_8 , $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Sb}^{3+}$; (3) $\text{CeMgAl}_{11}\text{O}_{19}:\text{Tb}^{3+}$,

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

~~GdMgB₅O₁₀:Ce³⁺, Tb³⁺, Mn²⁺~~, and ~~GdMgB₅O₁₀:Ce³⁺, Tb³⁺~~; (4)
~~(Tb, Y, Lu, La, Gd)_x(Al, Ga)_yO₁₂:Ce³⁺~~, ~~(Tb, Y, Lu, La, Gd)_xGa_yO₁₂:Ce³⁺~~ and
~~(Ba, Sr, Ca)₃(PO₄)₃(Cl, F, OH):Eu²⁺~~, and ~~(Ba, Sr, Ca)₃(PO₄)₃(Cl, F, OH):Mn²⁺, Sb³⁺~~; and (5)
~~(Y, Gd, La, Lu, Sc)₂O₃:Eu³⁺~~, ~~(Y, Gd, La, In, Lu, Sc)BO₃:Eu³⁺~~, ~~(Y, Gd, La)(Al, Ga)O₃:Eu³⁺~~,
~~(Ba, Sr, Ca)(Y, Gd, La, Lu)₂O₄:Eu³⁺~~, ~~(Y, Gd)Al₃B₄O₁₂:Eu³⁺~~, ~~monoclinic Gd₂O₃:Eu²⁺~~,
~~(Gd, Y)₄(Al, Ga)₂O₉:Eu³⁺~~, ~~(Ca, Sr)(Gd, Y)₃(Ge, Si)Al₃O₉:Eu³⁺~~, and ~~(Sr, Mg)₃(PO₄)₂:Sn²⁺~~,
 and ~~GdMgB₅O₁₀:Ce³⁺, Mn²⁺~~; and (6) ~~3.5MgO·0.5MgF₂·GeO₂:Mn⁴⁺~~; wherein x is in a
 range from about 2.8 to and including 3, y is in a range from about 4 to and including 5,
 at least two phosphors are selected from different groups, and said phosphor blend is
 capable of absorbing EM radiation that is emitted by said source of gas discharge and has
 wavelengths in a range from about 200 nm to about 400 nm and emitting light in having
 wavelengths in a visible spectrum.

34. (previously presented) The light source of claim 33, wherein y is in
 a range from about 4.6 to and including 5.

35. (canceled)

36. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising ~~(Tb, Y, Lu, La, Gd)_x(Al, Ga)_yO₁₂:Ce³⁺~~
 or ~~(Tb, Y, Lu, La, Gd)_xGa_yO₁₂:Ce³⁺~~ and at least another phosphor selected from one of the
 groups: (1) ~~(Ba, Sr, Ca)₃(PO₄)₃(Cl, F, OH):Eu²⁺~~, ~~(Ba, Sr, Ca)MgAl₁₀O₁₇:Eu²⁺~~, and
~~(Ba, Sr, Ca)BPO₅:Eu²⁺~~; (2) ~~Sr₄Al₁₄O₂₅:Eu²⁺~~, ~~BaAl₈O₁₃:Eu²⁺~~,
~~2SrO·0.84P₂O₅·0.16B₂O₃:Eu²⁺~~, ~~MgWO₄~~, ~~BaTiP₂O₈~~, ~~(Ba, Sr, Ca)MgAl₁₀O₁₇:Eu²⁺~~, ~~Mn²⁺~~,
 and ~~(Ba, Sr, Ca)₃(PO₄)₃(Cl, F, OH):Sb³⁺~~; (3) ~~LaPO₄:Ce³⁺, Tb³⁺~~, ~~CeMgAl₁₁O₁₉:Tb³⁺~~,
~~GdMgB₅O₁₀:Ce³⁺, Tb³⁺~~, ~~Mn²⁺~~, and ~~GdMgB₅O₁₀:Ce³⁺, Tb³⁺~~; and (4)
~~(Y, Gd, La, Lu, Sc)₂O₃:Eu³⁺~~, ~~(Y, Gd, La, In, Lu, Sc)BO₃:Eu³⁺~~, ~~(Y, Gd, La)(Al, Ga)O₃:Eu³⁺~~,
~~(Ba, Sr, Ca)(Y, Gd, La, Lu)₂O₄:Eu³⁺~~, ~~(Y, Gd)Al₃B₄O₁₂:Eu³⁺~~, ~~monoclinic Gd₂O₃:Eu²⁺~~,
~~(Gd, Y)₄(Al, Ga)₂O₉:Eu³⁺~~, ~~(Ca, Sr)(Gd, Y)₃(Ge, Si)Al₃O₉:Eu³⁺~~, and ~~(Sr, Mg)₃(PO₄)₂:Sn²⁺~~;

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

and ~~GdMgB₅O₁₀:Ce³⁺, Mn²⁺~~; and (5) ~~3.5MgO-0.5MgF₂-GeO₂:Mn⁴⁺~~; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, said phosphor blend is capable of absorbing EM radiation that is emitted by said source of gas discharge and has wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

37. (original) The light source of claim 36, wherein y is in a range from about 4.5 to and including 5.

38. (original) The light source of claim 36, wherein y is in a range from about 4.6 to and including 5.

39. (original) The light source of claim 36, wherein said source of gas discharge is a mercury vapor discharge.

40. (canceled)

41. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising a plurality of phosphors, each of said phosphors being selected from one of groups: (1) (Ba,Sr,Ca)₅(PO₄)₃(Cl,F,OH):Eu²⁺, (Ba,Sr,Ca)MgAl₁₀O₁₇:Eu²⁺, and (Ba,Sr,Ca)BPO₅:Eu²⁺; (2) Sr₄Al₁₄O₂₅:Eu²⁺, BaAl₈O₁₃:Eu²⁺, ~~2SrO-0.84P₂O₅-0.16B₂O₃:Eu²⁺~~, BaTiP₂O₈, (Ba,Sr,Ca)MgAl₁₀O₁₇:Eu²⁺, Mn²⁺, and (Ba,Sr,Ca)₅(PO₄)₃(Cl,F,OH):Sb³⁺; (3) (Tb,Y,Lu,La,Gd)_x(Al,Ga)_yO₁₂:Ce³⁺, ~~(Tb,Y,Lu,La,Gd)_x(Al,Ga)_yO₁₂:Ce³⁺~~, and ~~(Ba,Sr,Ca)₅(PO₄)₃(Cl,F,OH):Eu²⁺~~ and ~~(Ba,Sr,Ca)₅(PO₄)₃(Cl,F,OH):Mn²⁺~~, Sb³⁺; and (4) ~~(Y,Lu,Sc)₂O₃:Eu³⁺~~, (Y,Gd,La,In,Lu,Sc)BO₃:Eu³⁺, (Y,Gd,La)(Al,Ga)O₃:Eu³⁺, (Ba,Sr,Ca)(Y,Gd,La,Lu)₂O₄:Eu³⁺, (Y,Gd)Al₃B₄O₁₂:Eu³⁺, ~~monoclinic Gd₂O₃:Eu³⁺~~, (Gd,Y)₄(Al,Ga)₂O₉:Eu³⁺, (Ca,Sr)(Gd,Y)₃(Ge,Si)Al₃O₉:Eu³⁺, and (Sr,Mg)₃(PO₄)₂:Sn²⁺, and ~~GdMgB₅O₁₀:Ce³⁺, Mn²⁺~~; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

and including 5, at least two of said phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

42. (previously presented) The light source of claim 41, wherein y is in a range from about 4.6 to and including 5.

43. (canceled)

44. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising a plurality of phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_3\text{:Eu}^{2+}$; (2) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}\text{:Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}\text{:Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3\text{:Eu}^{2+}$, MgWO_4 , BaTiP_2O_8 , $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, Mn^{2+} , and $(\text{Ba}, \text{Sr}, \text{Ca})_3(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Sb}^{3+}$; and (3) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}\text{:Ce}^{3+}$ and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Eu}^{2+}$ and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Mn}^{2+}$, Sb^{3+} ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

45. (original) The light source of claim 44, wherein y is in a range from about 4.5 to and including 5.

46. (original) The light source of claim 44, wherein y is in a range from about 4.6 to and including 5.

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

47. (original) The light source of claim 44, wherein said source of gas discharge is a mercury vapor discharge.

48. (canceled)

49. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5\text{:Eu}^{2+}$; (2) $\text{CeMgAl}_{11}\text{O}_{19}\text{:Tb}^{3+}$, $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Tb^{3+} , Mn^{2+} , and $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Tb^{3+} ; (3) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Mn}^{2+}$, Sb^{3+} ; and (4) $(\text{Y}, \text{Gd}, \text{La}, \text{Lu}, \text{Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ , $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, and ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Mn^{2+}~~ ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum

50. (previously presented) The light source of claim 49, wherein y is in a range from about 4.6 to and including 5.

51. (canceled)

52. (currently amended) A light source comprising:

(a) a source of gas discharge; and

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

(b) phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{F,OH})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (2) $(\text{Tb,Y,Lu,Lu,Gd})_x(\text{Al,Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, $(\text{Tb,Y,Lu,Lu,Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Mn}^{2+}$, Sb^{3+} ; and (3) $(\text{Gd,Lu,Lu,Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu,Lu,Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu})(\text{Al,Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba,Sr,Ca})(\text{Y,Gd,Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y,Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ , $(\text{Gd,Y})_4(\text{Al,Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca,Sr})(\text{Gd,Y})_3(\text{Ge,Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr,Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, and ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}, \text{Mn}^{2+}$~~ ; and (4) ~~$3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2\text{:Mn}^{4+}$~~ ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

53. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{OH})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (2) $(\text{Tb,Y,Lu,Lu,Gd})_x(\text{Al,Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, $(\text{Tb,Y,Lu,Lu,Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Mn}^{2+}$, Sb^{3+} ; and (3) $(\text{Gd,Lu,Lu,Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu,Lu,Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu})(\text{Al,Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba,Sr,Ca})(\text{Y,Gd,Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y,Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ , $(\text{Gd,Y})_4(\text{Al,Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca,Sr})(\text{Gd,Y})_3(\text{Ge,Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr,Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, and ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}, \text{Mn}^{2+}$~~ ; and (d) ~~$3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2\text{:Mn}^{4+}$~~ ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light in having wavelengths in a visible spectrum.

Application No. 10/064,129
Amendment dated May 5, 2006
Reply to Office Action of August 10, 2005

RD-28679-1

54. (previously presented) The light source of claim 53, wherein y is in a range from about 4.6 to and including 5.
55. (original) The light source of claim 52, wherein said source of gas discharge is a mercury vapor discharge.
56. (canceled)
57. (original) The light source according to claim 36, wherein said light source has a CRI greater than about 80.
58. (cancelled)
59. (original) The light source according to claim 44, wherein said light source has a CRI greater than about 80.
60. (original) The light source according to claim 49, wherein said light source has a CRI greater than about 80.
61. (original) The light source according to claim 52, wherein said light source has a CRI greater than about 80.
62. (canceled)
63. (original) The light source according to claim 57, wherein said light source has a CRI greater than about 80 and a CCT in a range from about 2700 to about 6500 K.
64. (canceled)
65. (original) The light source according to claim 59, wherein said light source has a CRI greater than about 80 and a CCT in a range from about 2700 to about 6500 K.

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

66. (original) The light source according to claim 60, wherein said light source has a CRI greater than about 80 and a CCT in a range from about 2700 to about 6500 K.

67. (original) The light source according to claim 61, wherein said light source has a CRI greater than about 80 and a CCT in a range from about 2700 to about 6500 K.

68. (currently amended) A phosphor blend comprising at least two phosphors, each of said phosphors being selected from one of groups: (a) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{F})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (b) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}\text{:Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}\text{:Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3\text{:Eu}^{2+}$, BaTiP_2O_8 , and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Sb}^{3+}$; (c) $\text{CeMgAl}_{11}\text{O}_{19}\text{:Tb}^{3+}$, $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Tb^{3+} , Mn^{2+} , and $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Tb^{3+} ; (d) $(\text{Tb,Y,Lu,Lu,Gd})_x(\text{Al,Ga})_y\text{O}_{12}\text{:Ce}^{3+}$ and $(\text{Tb,Y,Lu,Lu,Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$, wherein x is in a range from about 2.8 to and including 3 and y is in a range from about 4 to and including 5, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$ and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Mn}^{2+}$, Sb^{3+} ; (e) $(\text{La,Lu,Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu,Lu,Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu})(\text{Al,Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba,Sr,Ca})(\text{Y,Gd,Lu,Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y,Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic~~ $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Gd,Y})_4(\text{Al,Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca,Sr})(\text{Gd,Y})_3(\text{Ge,Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr,Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, and $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$, Mn^{2+} ; wherein at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing electromagnetic ("EM") radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

69. (previously presented) The phosphor blend of claim 68, wherein said phosphor blend absorbs EM radiation substantially in a wavelength range from about 250 nm to about 350 nm.

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

70. (previously presented) The phosphor blend of claim 68, wherein said phosphor blend absorbs EM radiation substantially in a wavelength range from about 250 nm to about 300 nm.

71. (previously presented) The phosphor blend of claim 68, wherein said light emitted from said phosphor blend is white light.

72. (previously presented) The phosphor blend of claim 71, wherein said white light has color coordinates substantially on a black body locus of a CIE chromaticity diagram.

73. (previously presented) The phosphor blend of claim 72, wherein said color coordinates of said white light is represented by a point at a distance less than or equal to about 0.0054 from a black body locus of a CIE chromaticity diagram.

74. (previously presented) The phosphor blend of claim 17, wherein y is in a range from about 4.5 to and including 5.

75. (currently amended) A phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (a) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{F}): \text{Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}: \text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5: \text{Eu}^{2+}$; (b) $\text{CeMgAl}_{11}\text{O}_{19}: \text{Tb}^{3+}$, $\text{GdMgB}_5\text{O}_{10}: \text{Ce}^{3+}$, Tb^{3+} , Mn^{2+} , and $\text{GdMgB}_5\text{O}_{10}: \text{Ce}^{3+}$, Tb^{3+} ; (c) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}: \text{Ce}^{3+}$, $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}: \text{Ce}^{3+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}): \text{Mn}^{2+}$, Sb^{3+} ; and (d) $(\text{La}, \text{Lu}, \text{Sc})_2\text{O}_3: \text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3: \text{Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3: \text{Eu}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4: \text{Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}: \text{Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3: \text{Eu}^{3+}$~~ , $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9: \text{Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9: \text{Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2: \text{Sn}^{2+}$, $\text{GdMgB}_5\text{O}_{10}: \text{Ce}^{3+}$, Mn^{2+} ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

76. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising at least two phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{F}, \text{OH})\text{:Eu}^{2+}$, $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5\text{:Eu}^{2+}$; (2) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}\text{:Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}\text{:Eu}^{2+}$, $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3\text{:Eu}^{2+}$, BaTiP_2O_8 , $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, Mn^{2+} , and $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Sb}^{3+}$; (3) $\text{CeMgAl}_{11}\text{O}_{19}\text{:Tb}^{3+}$, ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$~~ , ~~$\text{Tb}^{3+}$~~ , ~~$\text{Mn}^{2+}$~~ , and $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{2+}$, Tb^{3+} ; (4) $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x(\text{Al}, \text{Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, ~~$(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$~~ , and ~~$(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Eu}^{2+}$~~ and ~~$(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Mn}^{2+}$~~ , Sb^{3+} ; and (5) $(\text{La}, \text{Lu}, \text{Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La}, \text{In}, \text{Lu}, \text{Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y}, \text{Gd}, \text{La})(\text{Al}, \text{Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba}, \text{Sr}, \text{Ca})(\text{Y}, \text{Gd}, \text{La}, \text{Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y}, \text{Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, monoclinic ~~$\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ , $(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, and ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}$~~ , ~~$\text{Mn}^{2+}$~~ , and (6) ~~$3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2\text{:Mn}^{4+}$~~ ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation that is emitted by said source of gas discharge and has wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

77. (currently amended) The light source of claim 76, wherein said source of gas discharge is a mercury vapor discharge.

78. (currently amended) A light source comprising:

(a) a source of gas discharge; and

Application No. 10/064,129
 Amendment dated May 5, 2006
 Reply to Office Action of August 10, 2005

RD-28679-1

(b) a phosphor blend comprising a plurality of phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{F,OH})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (2) $\text{Sr}_4\text{Al}_{14}\text{O}_{25}\text{:Eu}^{2+}$, $\text{BaAl}_8\text{O}_{13}\text{:Eu}^{2+}$, $2\text{SrO}\cdot 0.84\text{P}_2\text{O}_5\cdot 0.16\text{B}_2\text{O}_3\text{:Eu}^{2+}$, BaTiP_2O_8 , $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, Mn^{2+} , and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Sb}^{3+}$; (3) $(\text{Tb,Y,Lu,Lu,Gd})_x(\text{Al,Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, $(\text{Tb,Y,Lu,Lu,Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Mn}^{2+}$, Sb^{3+} ; and (4) $(\text{La,Lu,Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu,Lu,Lu,Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu})(\text{Al,Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba,Sr,Ca})(\text{Y,Gd,Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y,Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ , $(\text{Gd,Y})(\text{Al,Ga})_2\text{O}_9\text{:Eu}^{3+}$, $(\text{Ca,Sr})(\text{Gd,Y})_3(\text{Ge,Si})\text{Al}_3\text{O}_9\text{:Eu}^{3+}$, and $(\text{Sr,Mg})_3(\text{PO}_4)_2\text{:Sn}^{2+}$, and ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{2+}$, Mn^{2+}~~ ; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two of said phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

79. (currently amended) The light source of claim 7849, wherein said source of gas discharge is a mercury vapor discharge.

80. (currently amended) A light source comprising:

(a) a source of gas discharge; and

(b) a phosphor blend comprising phosphors, each of said phosphors being selected from one of groups: (1) $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{F,OH})\text{:Eu}^{2+}$, $(\text{Ba,Sr,Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})\text{BPO}_5\text{:Eu}^{2+}$; (2) $\text{CeMgAl}_{11}\text{O}_{19}\text{:Tb}^{3+}$, ~~$\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{2+}$, Tb^{3+} , Mn^{2+}~~ , and $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{2+}$, Tb^{3+} ; (3) $(\text{Tb,Y,Lu,Lu,Lu,Gd})_x(\text{Al,Ga})_y\text{O}_{12}\text{:Ce}^{3+}$, ~~$(\text{Tb,Y,Lu,Lu,Lu,Gd})_x\text{Ga}_y\text{O}_{12}\text{:Ce}^{3+}$~~ , $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Eu}^{2+}$, and $(\text{Ba,Sr,Ca})_5(\text{PO}_4)_3(\text{Cl,F,OH})\text{:Mn}^{2+}$, Sb^{3+} ; and (4) $(\text{La,Lu,Sc})_2\text{O}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu,Lu,Lu,Sc})\text{BO}_3\text{:Eu}^{3+}$, $(\text{Y,Gd,Lu})(\text{Al,Ga})\text{O}_3\text{:Eu}^{3+}$, $(\text{Ba,Sr,Ca})(\text{Y,Gd,Lu,Lu})_2\text{O}_4\text{:Eu}^{3+}$, $(\text{Y,Gd})\text{Al}_3\text{B}_4\text{O}_{12}\text{:Eu}^{3+}$, ~~monoclinic $\text{Gd}_2\text{O}_3\text{:Eu}^{3+}$~~ ;

Application No. 10/064,129
Amendment dated May 5, 2006
Reply to Office Action of August 10, 2005

RD-28679-1

$(\text{Gd}, \text{Y})_4(\text{Al}, \text{Ga})_2\text{O}_9:\text{Eu}^{3+}$, $(\text{Ca}, \text{Sr})(\text{Gd}, \text{Y})_3(\text{Ge}, \text{Si})\text{Al}_3\text{O}_9:\text{Eu}^{3+}$, and $(\text{Sr}, \text{Mg})_3(\text{PO}_4)_2:\text{Sn}^{2+}$; and $\text{GaMgB}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Mn}^{2+}$; wherein x is in a range from about 2.8 to and including 3, y is in a range from about 4 to and including 5, at least two phosphors are selected from different groups, and said phosphor blend is capable of absorbing EM radiation having wavelengths in a range from about 200 nm to about 400 nm and emitting light having wavelengths in a visible spectrum.

81. (currently amended) The light source of claim 8048, wherein said source of gas discharge is a mercury vapor discharge.

82. (currently amended) The light source according to claim 7632, wherein said light source has a CRI greater than about 80.

83. (currently amended) The light source according to claim 8256, wherein said light source has a CRI greater than about 80 and a CCT in a range from about 2700 to about 6500 K.

84. (currently amended) The light source according to claim 7958, wherein said light source has a CRI greater than about 80 and a CCT in a range from about 2700 to about 6500 K.